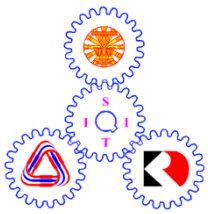

Sirindhorn International Institute of Technology
Thammasat University
School of Information, Computer and Communication Technology

IES 302: Course Syllabus

Semester/Year: 2/2011

Course Title: Engineering Statistics
Instructor: Dr. Prapun Suksompong (prapun@siit.tu.ac.th)
***Course Web Site*:** http://www2.siit.tu.ac.th/prapun/IES302/

Please check the course web site regularly for updated information about this course.

Lectures

Time and Place:

- Wednesday 13:30-15:20 BKD 3507
- Friday 10:40-12:30 BKD 3507

You are STRONGLY encouraged to attend lectures. (See the grading policy below.)

Undergraduate Student Dress Code:

- Undergraduate students must wear Thammasat University uniform OR polite dress.
- Plain white shirt, properly tucked in.
- Plain trouser/skirt in dark color.
- The followings are not allowed:
    - Sandals
    - T-shirt (even with the shop shirt)
    - Polo-shirt (even with the shop shirt)

Prerequisite: MAS 117 (Mathematics II)

Course Description: This course introduces the principles of probability and statistics to undergraduate students. The first part will focus on probability concepts including fundamentals of probability, events, conditional probability, discrete and continuous random variables, probability density function. The second part of the course will focus on applied statistics. The topics to be covered include sampling distributions, hypothesis testing, and regression analysis.

Textbook: Douglas C. Montgomery and George C. Runger, *Applied Statistics and Probability for Engineers*, 5 edition, June 2010

References:

1. Douglas C. Montgomery, George C. Runger, and Norma Faris Hubele, Engineering Statistics, Fifth Edition, Wiley, 2011

2. William Feller. *An Introduction to Probability Theory and Its Applications*, Volume 1. Wiley, 3 edition, 1968.
3. *A first course in probability* / Sheldon Ross. Call No. QA273 R83 2002
4. *Probability models, introduction to* / Sheldon M. Ross. Call No. QA273 R84 1997
5. Leonard Mlodinow. *The Drunkard's Walk: How Randomness Rules Our Lives.* Pantheon; 8th Printing edition, 2008.
6. Peter Olofsson. *Probabilities: The Little Numbers That Rule Our Lives*. Wiley, 2006.
7. Henk Tijms. *Understanding Probability: Chance Rules in Everyday Life*. Cambridge University Press, 2 edition, August 2007.

Grading Policy: Coursework will be weighted as follows:

Assignments	5%
Quiz	5%
Class Discussion/Participation	**10%**
Midterm Examination	40%
Final Examination (comprehensive)	40%

- No late assignments will be accepted.
- Cheating will not be tolerated
- Copying homework/quiz/exam = cheating
    - Punishment:
        - First time cheater receives zero on that assignment
        - Second time cheater receives zero on all quizzes and/or HWs

Assignments: Homework will be assigned throughout the semester. For each assignment, only part(s) of a selected problem will be graded. Of course, you do not know which problem will be selected; so you should work on all of them. The complete solutions to all problems will be posted on the course web site.

Quizzes and Exams:

Exams will be closed book.

Quizzes will test current and previous topics. A quiz may be given at any time during any class period – at the beginning or end of a class, etc. There will be no make-up quizzes. Quizzes will be given only to those students who are present when the quizzes are passed out.

Students should notify the instructor before missing any exam if at all possible and immediately thereafter when not possible. The instructor (and/or the fact-finding committee) will determine if the absence from an exam is legitimate. Simply not feeling well is not a reason to miss an exam. In the case of legitimate absence, an oral and/or written make-up exam could be arranged.

Expectations: You should expect to spend extra 5-8 hours per week studying outside of class. However, I do expect you to come to class and *participate actively* in class discussions. If you must miss a class, I expect you to find out and catch up with what happened in lecture, either from me or one of your classmates. You are responsible for all materials that are discussed in class.

Academic Integrity

The work you submit in IES 302 is expected to be the result of your individual effort. You are free to discuss course material, approaches to problems with your colleagues or the instructor but you should never misrepresent someone else's work as your own.

It is your responsibility to protect your work from unauthorized access. For example, do not discard copies of your codes/assignments in public places.

Course Outline

1. Probability
2. Random variables
3. Discrete random variables
4. Multiple random variables
5. Continuous random variables
6. **MIDTERM**: 24 Feb 2012 TIME 09:00 - 12:00
7. Descriptive Statistics
8. Random Sampling
9. Sampling Distributions
10. Confidence Interval
11. Tests of Hypotheses
12. Simple Linear Regression
13. **FINAL**: 10 Apr 2012 TIME 13:30 - 16:30